

REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed November 30, 2004. In the Office Action, the Examiner notes that claims 1-22 are pending and rejected. By this response, claims 1, 13, 14, 18, 20, and 22 are amended, and claims 2-12, 15-17, 19, and 21 continue unamended.

In view of both the amendments presented above and the following discussion, the Applicants submit that none of the claims now pending in the application are anticipated or obvious under the respective provisions of 35 U.S.C. §102 and 103.

It is to be understood that the Applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to the Applicants' subject matter recited in the pending claims. Further, the Applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendments.

Rejections

35 U.S.C. §102

Claims 1, 3, 5, 7 and 10-12

The Examiner has rejected claims 1, 3, 5, 7 and 10-12 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,173,330 to Guo (hereinafter "Guo"). The Applicants respectfully traverse the rejection.

The Applicants' independent claim 1 recites:

"A method for maintaining records of information related to an interactive program guide (IPG) provided via a plurality of IPG pages, the method comprising:

generating a program mapping table (PMT) to identify video, audio, and data packet identifiers (PIDs) associated with each IPG page;

generating a program association table (PAT) to identify PIDs for the PMT for the transmitted IPG pages;

forming a plurality of record elements associated with a roster, each record element being associated with a respective IPG page received at a terminal, and wherein each record includes a first field indicative of a specific one of the plurality of IPG pages corresponding to the associated IPG page." (emphasis added).

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). The Guo reference fails to disclose each and every element of the claimed invention, as arranged in the claim.

In particular, the Guo reference discloses

FIG. 1 shows an ordering of pages in a data stream in accordance with the present invention. The data stream, shown generally at 100, includes consecutive transmission cycles, shown at 110, 130 and 150, respectively. The first transmission cycle 110 includes a foundation page 112, a schedule_listing block 114, and a description block 116. The blocks 114 and 116 together form a page of data (e.g., page m). The blocks 132 and 134 also form a page (e.g., page n). The blocks are sub-pages since they are subsets of a complete page. Furthermore, each block includes one or more data segments, as discussed below. Each page of blocks within each transmission cycle describes the programming available for a given service in a specific time period. When the data carried by the demand and trickle streams is provided in separate pages, and each of the pages is carried in a separate packet stream identified by a unique PID in the transport multiplex, microprocessor 1036 can provide first and second PID processors for acquiring schedule information spanning two consecutive time slots. There are two different types of elementary PIDs which make up the demand IPG download service. One type carries only records describing time slots. The other type carries foundation data. The records describing time slots include daily schedule/title records and description records. For example, the records describing time slots are carried in the form of a "schedule record" that combines title and description information into a daily schedule. (See Guo, column 5, lines 17-28, column 17, lines 42-47, and column 18, lines 1-8).

By contrast, in accordance with an aspect of the invention, a "roster" scheme is introduced for referencing video, audio, and data PIDs, with the roster operating in addition to the PMT of MPEG systems. In this scheme, the PMT is used to include video and audio PIDs that refer to a "splash" page. In one embodiment for the splash page, the PMT includes a video PID that refers to the guide region with no program text, an audio PID, and another video PID that refers to a barker video. As the viewer first turns on the set top terminal, or for any one of a number of error situations, the terminal

looks at the content of the PMT to determine the splash page, and decodes and temporarily displays the splash page (e.g., for a fraction of a second). (see Applicants' specification, page 42, lines 9-17). In other words, the Applicants' invention provides a plurality of record elements associated with a roster in addition to the program mapping table and the program association table. Further, each record element is associated with a respective IPG page received at a terminal wherein each record element includes a first field indicative of a specific one of a plurality of IPG pages corresponding to the associated IPG page. Therefore, the Guo reference fails to teach each and every element of the claimed invention, as arranged in the claim.

As such, the Applicants submit that independent claim 1 is not anticipated and fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder. Furthermore, claims 3, 5, 7 and 10-12 depend, either directly or indirectly, from independent claim 1 and recite additional features thereof. As such and at least for the same reasons as discussed above, the Applicants submit that these dependent claims are also not anticipated and fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

Claims 18-21

The Examiner has rejected claims 18-21 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,844,620 to Coleman (hereinafter "Coleman"). The Applicants respectfully traverse the rejection.

The Coleman reference fails to disclose each and every element of the claimed invention, as arranged in the claim.

18. In an information distribution system, a terminal operable to process information for an interactive program guide (IPG) provided via a plurality of IPG pages, the terminal comprising:

a memory unit configured to store a program mapping table (PMT) to identify packet identifiers (PIDs) associated with each IPG page, a program association table (PAT) to identify PIDs for the PMT for the transmitted IPG pages, and a plurality of record elements of a roster, wherein each record element is associated with, and identifies, a respective IPG page received at a terminal;

a controller configured to receive a selection for a particular IPG page,

determine whether the selected IPG page is currently received at the terminal, and if the selected IPG page is currently received at the terminal, identify one or more packet identifiers (PIDs) used for the selected IPG page; and

a video decoder operatively coupled to the controller and configured to process the one or more identified PIDs to form the selected IPG page. (emphasis added).

One function of memory manager 48 is to monitor the amount of free memory available in the receiver system RAM 50. In the event that the amount of memory available is less than that required to store the title and description records for a time slot of interest, the memory manager can purge description records from the receiver system RAM in order to make room for all of the title records. In this manner, the title information will be immediately available to a user once it has been stored in the receiver system RAM. If there is not enough room to store the corresponding description information, the description record for an event requested by a user can be obtained from the demand data stream on an as needed basis. Since the demand data is transmitted at a high rate, the acquisition time for a requested description not already stored in receiver system RAM 50 will be fairly short. (see Coleman, column 14, lines 7-22).

Nowhere in the Coleman reference is there any teaching, or even suggestion, of "a memory unit configured to store a program mapping table (PMT) to identify packet identifiers (PIDs) associated with each IPG page, a program association table (PAT) to identify PIDs for the PMT for the transmitted IPG pages, and a plurality of record elements of a roster, wherein each record element is associated with, and identifies, a respective IPG page received at a terminal."

As discussed above, the Applicants' invention provides a roster that is generated by a plurality of record elements associated with an IPG page in addition to the PMT and PAT sent by the head-end to the terminal. (see Applicants' specification, page 42, lines 9-17). Since the Coleman reference fails to teach or suggest a memory unit configured to store a program mapping table, a program association table, and a plurality of record elements of a roster, the Coleman reference fails to teach each and every element of the claimed invention, as arranged in the claim.

As such, the Applicants submit that independent claim 18 is not anticipated and fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder. Furthermore, claims 19-21 depend, either directly or indirectly, from independent claim 1 and recite additional features thereof. As such and at least for the same reasons as discussed above, the Applicants submit that these dependent claims are also not anticipated and fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

35 U.S.C. §103

Claims 8 and 13

The Examiner has rejected claims 8 and 13 under 35 U.S.C. §103(a) as being unpatentable over Guo. The Applicants respectfully traverse the rejection.

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). The Guo reference fails to teach or suggest the Applicants' invention as a whole.

As discussed above, the Guo reference discloses

a data stream includes consecutive transmission cycles where the first transmission cycle includes a foundation page, a schedule listing block, and a description block. The schedule listing block and the description block together form a page of data. Each block includes one or more data segments and each page of blocks within each transmission cycle describes the programming available for a given service in a specific time period. (see Guo, column 5, lines 17-28).

Nowhere in the Guo reference is there any teaching or suggestion of generating a program mapping table, generating a program association table, and forming a plurality of record elements associated with a roster, each record element being

associated with a respective IPG page received at a terminal. Therefore, the Guo reference fails to teach or suggest the Applicants' invention as a whole.

As such, the Applicants submit that independent claim 1 and dependent claims 8 and 13 which depend directly or indirectly from independent claim 1 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

Claims 2-4

The Examiner has rejected claims 2-4 under 35 U.S.C. §103(a) as being unpatentable over Guo in view of U.S. Patent 6,728,966 to Arsenault (hereinafter "Arsenault"). The Applicants respectfully traverse the rejection.

As discussed above, the Guo reference discloses

a data stream includes consecutive transmission cycles where the first transmission cycle includes a foundation page, a schedule listing block, and a description block. The schedule listing block and the description block together form a page of data. Each block includes one or more data segments and each page of blocks within each transmission cycle describes the programming available for a given service in a specific time period. (see Guo, column 5, lines 17-28).

Nowhere in the Guo reference is there any teaching or suggestion of generating a program mapping table, generating a plurality of association table, and forming a plurality of record elements associated with a roster, each record element being associated with a respective IPG page received at a terminal. Therefore, the Guo reference fails to teach or suggest the Applicants' invention as a whole.

Furthermore, the Arsenault reference fails to bridge the substantial gap as between the Guo reference and the Applicants' invention. In particular, the Arsenault reference discloses

Eventually, referencing objects are deleted by the system. As time moves forward, the electronic program guide is updated. Accordingly, referencing objects 108 associated with shows in the past may be deleted to conserve memory (e.g., a particular movie is no longer showing at any time). As referencing objects 108 are no longer needed and removed from the system, the corresponding reference pointers 106 may be

removed. When a content record 100 has no referencing objects 108, it too may be removed to conserve memory. Similarly, when a label 104 has no content records 100, it too may be removed. Further, a title with no labels may be deleted. In this way data structures are created and removed on the fly to create a flexible and memory efficient storage system. (see Arsenault, column 9, lines 41-54).

However, the combination of Guo and Arsenault fail to teach or suggest generating a program mapping table (PMT) to identify video, audio, and data packet identifiers (PIDs) associated with each IPG page, generating a program association table (PAT) to identify PIDs for the PMT for the transmitted IPG pages, and forming a plurality of record elements associated with a roster, each roster element being associated with a respective IPG page received at a terminal. Therefore, the combined references fail to teach or suggest the Applicants' invention as a whole.

As such, the Applicants submit that independent claim 1 and dependent claims 2-4 which depend directly or indirectly from independent claim 1 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

Claims 6-9

The Examiner has rejected claims 6-9 under 35 U.S.C. §103(a) as being unpatentable over Guo in view of U.S. Patent 6,802,074 to Mitsui (hereinafter "Mitsui"). The Applicants respectfully traverse the rejection.

As discussed above, the Guo reference discloses

a data stream includes consecutive transmission cycles where the first transmission cycle includes a foundation page, a schedule listing block, and a description block. The schedule listing block and the description block together form a page of data. Each block includes one or more data segments and each page of blocks within each transmission cycle describes the programming available for a given service in a specific time period. (see Guo, column 5, lines 17-28).

Nowhere in the Guo reference is there any teaching or suggestion of generating a program mapping table, generating a plurality of association table, and forming a

plurality of record elements associated with a roster, each record element being associated with a respective IPG page received at a terminal. Furthermore, the Mitsui reference does not bridge the substantial gap between the Mitsui reference and the Applicants' invention. Specifically, the Mitsui reference discloses

The controlling microcomputer 3 determines which broadcast program should be received according to the channel number that the user interface unit 2 received from a user or the channel selection made by the user using an EPG (Electronic Program Guide). After determining which broadcast program should be received, the controlling microcomputer 3 finds the video and audio streams composing the broadcast program by referring to the PSI using the program number given to the broadcast program. The controlling microcomputer 3 then outputs PIDs given to the video and audio streams to the transport decoder 4. (see Mitsui, column 7, lines 17-27).

Nowhere in the combined references is there any teaching or suggestion of generating a program mapping table (PMT) to identify video, audio, and data packet identifiers (PIDs) associated with each IPG page, generating a program association table (PAT) to identify PIDs for the PMT for the transmitted IPG pages, and forming a plurality of record elements associated with a roster, each record element being associated with a respective IPG page received at a terminal. Therefore, the combined references fail to teach or suggest the Applicants' invention as a whole.

As such, the Applicants submit that independent claim 1 and dependent claims 6 and 9 which depend directly or indirectly from independent claim 1 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

Claims 14-17 and 22

The Examiner has rejected claims 2-4 under 35 U.S.C. §103(a) as being unpatentable over Coleman in view of U.S. Patent 6,526,577 to Knudson (hereinafter "Knudson"). The Applicants respectfully traverse the rejection.

As discussed above, the Coleman reference discloses

One function of memory manager 48 is to monitor the amount of free memory available in the receiver system RAM 50. In the event that the amount of memory available is less than that required to store the title and description records for a time slot of interest, the memory manager can purge description records from the receiver system RAM in order to make room for all of the title records. In this manner, the title information will be immediately available to a user once it has been stored in the receiver system RAM. If there is not enough room to store the corresponding description information, the description record for an event requested by a user can be obtained from the demand data stream on an as needed basis. Since the demand data is transmitted at a high rate, the acquisition time for a requested description not already stored in receiver system RAM 50 will be fairly short. (see Coleman, column 14, lines 7-22).

Nowhere in the Coleman reference is there any teaching, or even suggestion of "a memory unit configured to store a program mapping table (PMT) to identify packet identifiers (PIDs) associated with each IPG page, a program association table (PAT) to identify PIDs for the PMT for the transmitted IPG pages, and a plurality of record elements of a roster, wherein each record element is associated with, and identifies, a respective IPG page received at a terminal."

Furthermore, the Knudson reference does not bridge the substantial gap between the Coleman reference and the Applicants' invention. Specifically, the Knudson reference discloses

The program guide may retrieve program guide data from program guide server 25 using any suitable client-server based approach. The program guide may, for example, pass SQL requests as messages to program guide server 25. In another suitable approach, the program guide may invoke remote procedures that reside on program guide server 25 using one or more remote procedure calls. Program guide server 25 may execute SQL statements for such invoked remote procedures. In still another suitable approach, client objects executed by the program guide may communicate with server objects executed by program guide server 25 using, for example, an object request broker (ORB). This may involve using, for example, Microsoft's Distributed Component Object Model (DCOM) approach. (see Knudson, column 6, lines 3-16).

Nowhere in the combined references is there any teaching or suggestion of generating a program mapping table (PMT) to identify video, audio, and data packet identifiers (PIDs) associated with each IPG page, generating a program association

table (PAT) to identify PIDs for the PMT for the transmitted IPG pages, generating a record element indicative of the transmitted IPG page, and transmitting the record element to the requested terminal to form a roster to reference IPG streams. Therefore, the combined references fail to teach or suggest the Applicants' invention as a whole.

As such, the Applicants submit that independent claims 14 and 22 and dependent claims 15-17 which depend directly or indirectly from independent claim 14 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

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CONCLUSION

Thus, the Applicants submit that none of the claims presently in the application are anticipated or obvious under the respective provisions of 35 U.S.C. §102 and §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Dated: 2/25/05

EJ Wall

Eamon J. Wall
Registration No. 39,414
Attorney for Applicants

MOSER, PATTERSON & SHERIDAN, LLP
595 Shrewsbury Avenue, Suite 100
Shrewsbury, New Jersey 07702
Telephone: 732-530-9404
Facsimile: 732-530-9808